

Michael Colin BEGG  
Serial No. 10/812,917  
September 11, 2008

**REMARKS**

Reconsideration of this application is respectfully requested.

In paragraph 2 on page 2 of the office action, the Examiner explains that the preamble of claim 1 has not been given patentable weight (as allegedly not importing any structure into the body of the claims) and that, therefore, the rejection based on 35 U.S.C. §102 and Henke is maintained.

In response, claim 1 has been amended above so as to clearly recite positive method steps resulting in the formation of an electrical MRIS shim coil. Accordingly, the recitations of the preamble are now more explicitly embodied in the body of the claim. Based on the Examiner's comments, it would appear that this should avoid the alleged anticipation rejection by Henke.

The restriction requirement withdrawing claims 5 and 8-10 from further consideration is again respectfully traversed. Reconsideration of the same is again requested.

The Examiner is urged to review footnote 1 on page 5 of applicant's appeal brief with respect to detailed reasons as to why the restriction requirement in this case is improper and should be withdrawn. In view of the Examiner's continued assertion of this requirement, a separate petition is being filed concurrently herewith requesting a decision

Michael Colin BEGG  
Serial No. 10/812,917  
September 11, 2008

on this issue. The Examiner's current comments with respect to the restriction requirement alleges that there is no allowable "generic or linking claim." However, claim 5 depends from claim 1 and, therefore, obviously claim 1 constitutes a generic or linking claim. Accordingly, when claim 1 is allowed, it is assumed that at least claim 5 will also be allowed.

Similarly, claims 8-10 depend from claim 6. Accordingly, claim 6 constitutes a generic or linking claim. It is assumed, therefore, that when claim 6 is allowed, then claims 8-10 will also be allowed.

The rejection of claims 1-3 under 35 U.S.C. §102 as allegedly anticipated by Henke '214 is respectfully traversed.

Henke was issued in 1931 – long before MRIS shim coils were known to anyone of skill in the relevant art. Clearly, the amended form of claim 1 makes it impossible for this ground of rejection to stand. Suffice it to note that, as a matter of law, no reference can anticipate any claim unless it teaches each and every feature of that claim.

Henke also fails to disclose attaching a punched conductive pattern to an insulating substrate to form even a transformer coil – let alone an MRIS shim coil.

The rejection of claims 1 and 4 under 35 U.S.C. §102 as allegedly anticipated by Doty '237 is also respectfully traversed.

Michael Colin BEGG  
Serial No. 10/812,917  
September 11, 2008

The Examiner refers (3:1-11) to Doty's brief reference to laser cutting of a metal foil laminate RF saddle coil usable for MRI. Contrary to the Examiner's assertion, Doty does not have anything to do with a shim coil – even for MRI (let alone for MRIS). As those in the relevant art are well aware, there is a world of difference between an RF coil and a magnetic field shim coil. They involve different structures and are provided for totally different functional purposes in a relevant imaging system.

Once again, as amended, what was in the preamble of claim 1 is now also found in the body of claim 1 and, thus, this ground of rejection is clearly untenable. Doty cannot possibly anticipate any claim of this application.

The alternative rejection of claims 1-3 under 35 U.S.C. §103 as allegedly being made "obvious" based on the applicant's own admitted prior art in view of Henke is also respectfully traversed.

Of course, applicant never claimed to be the first to devise any sort of MRIS shim coil. There have indeed been prior art techniques for manufacturing an MRIS shim coil. However, if the Examiner wishes to rely upon applicant's admitted prior art as described in the specification at pages 1-3, then it will be observed that this admitted prior art actually teaches away from punch-forming the conductor and then later attaching the punched pattern of conductive material to an insulating substrate so as to form an MRIS shim coil. That is, the described prior art photo-etching technique would be completely

Michael Colin BEGG  
Serial No. 10/812,917  
September 11, 2008

contrary to punching a naked metal pattern of conductor and then only later attaching the now-punched pattern of conductive material to an insulating substrate.

Since prior art teachings contrary to the claimed invention cannot be properly ignored when evaluating “obviousness” under 35 U.S.C. §103 and since even if all of the prior art teachings here relied upon by the Examiner are combined *arguendo*, one would still be left with deficiencies *vis-à-vis* applicant’s independent claim 1 as above amended, then this ground of rejection also cannot stand.

The rejection of claims 1, 4, 6 and 7 under 35 U.S.C. §103 as allegedly being made “obvious” in view of the applicant’s own admitted prior art in view of LaPlante ‘481 is also respectfully traversed.

Once again, the applicant’s own admitted prior art will be seen to actually away from the applicant’s now claimed invention – and such contrary teaching cannot be ignored when evaluating “obviousness” under 35 U.S.C. §103.

Furthermore, LaPlante has nothing to do with the making of MRIS shim coils. Instead, LaPlante deals with the making of deflection coils in a charged particle beam projection system. In the LaPlante method, a copper sheet is first attached to a ceramic substrate and then cut into a desired pattern using a laser. Amended claim 1 is clearly distinguished from the LaPlante teaching, *inter alia*, because the sheet of electrically

Michael Colin BEGG  
Serial No. 10/812,917  
September 11, 2008

conductive material is punched into a desired pattern of conductive material at a time before it is attached to a substrate. It is only after the required coil pattern has been punched from the conductor that it is then attached to an insulating substrate to form an MRIS shim coil.

In any event, neither LaPlante nor applicant's admitted prior art teaches forming an initial conductive pattern by punching.

It will be noted that independent claim 6 has also been amended above so as to now require punch-cutting of plural adjacently positioned MRIS shim coil windings from a continuous sheet of electrically conductive material along spaced-apart paths, etc.

Given such fundamental deficiencies of both the applicant's admitted prior art and LaPlante with respect to the above-discussed features of claims 1 and 6, it is not believed necessary at this time to discuss the additional deficiencies of this allegedly "obvious" combination of prior art references with respect to other aspects of the rejected claims.

However, it is noted that the Examiner's attempt to find a first cutting step where bridges of material are left between partially formed windings, etc., *vis-à-vis* claim 7 in LaPlante's Fig. 5 are clearly erroneous. The only "bridges" that can be even analogized to the applicant's bridges are the leads at the input/output of each individual coil structure. There is clearly no teaching of plural spaced-apart bridging materials left along

Michael Colin BEGG  
Serial No. 10/812,917  
September 11, 2008

the cutting paths to physically maintain the as-cut position of conductive coil windings while an insulating substrate is adhered thereto – then followed by a second cutting step where the bridges are cut off to completely form a separation between adjacent winding conductors.

Among other things, the Examiner is confusing input/output conductors to an entire coil as opposed to plural spaced-apart bridges left along a cutting path so as to maintain the position of cut-apart material until it can be adhered to a supporting substrate. LaPlante teaches the exact opposite since LaPlante first attaches a copper sheet to a supporting ceramic substrate before any cutting is attempted. Accordingly, since the conductor is already supported during the cutting process, there would be no purpose to the applicant's bridges in the LaPlante methodology.

Furthermore, as is obvious to those having skill in the relevant art, the coil and coil fabrication techniques taught by LaPlante for electro-magnetic coil deflection vanes is totally foreign to the problem of manufacturing MRIS shim coils.

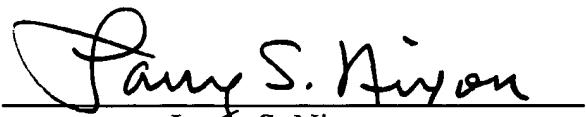
Attention is called to new dependent claim 11 which adds the temporary bridge conductor feature to independent claim 1.

Michael Colin BEGG  
Serial No. 10/812,917  
September 11, 2008

Accordingly, this entire application is now believed to be in allowable condition,  
and a formal notice to that effect is earnestly solicited.

Respectfully submitted,

**NIXON & VANDERHYE P.C.**

By:   
Larry S. Nixon  
Reg. No. 25,640

LSN:lef

901 North Glebe Road, 11th Floor  
Arlington, VA 22203-1808  
Telephone: (703) 816-4000  
Facsimile: (703) 816-4100